amended to recite slightly more generic terms and/or to delete repetitive terms, thereby mooting the issue.

Applicant has amended claim 12 herein to more explicitly indicate "the ratio", although applicant respectfully submits that one of ordinary skill in the art would have understood that ratio as stated in the prior wording. An explicit referent "the" has also been added to claim 12 in line nine.

Prior claim 13 has been amended to supplement claim 18. In response to the Examiner's query regarding the intended meaning of "baffle/piston" in claim 18, applicant has separated prior claim 18 into new claim 13, that recites a baffle, and into new claim 18, that recites a piston. "A baffle or a piston" was the intended meaning of the term "baffle/piston", and applicant submits that one of skill in the art would have so understood.

§ 102 Rejections

The independent claims are claims 12, 14, 20 and 39. (The current version of these claims, prior to amendment herein, is found in applicant's next to last submitted amendment.)

Independent claims 12, 14 and 39 were rejected under 102(b) as anticipated by Klein '956.

Applicant submits that the examiner has the burden to establish a *prima facie* case of unpatentability of the pending claims on any grounds, including anticipation and obviousness. *In re Oetiker*, 24 U.S.P. 2d 1443, 1444 (Fed. Cir. 1992). If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more, the applicant is entitled to grant of the patent. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1444. In order to establish a case of *prima facie* anticipation, the examiner must establish that each and every element as set forth in the claims is found, expressly or inherently described, in a single prior art reference. MPEP 2131.

Applicant respectfully submits that it has not been established that every element of the above independent claims is found in, or is inherently described in, Klein. A prima facie case, thus, has not been made. Without more, applicant is entitled to grant.

More particularly, regarding claim 12: the Examiner has not asserted or established that "adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies" is found in, or inherently described in, Klein. Likewise, the Examiner has not asserted or established that "varying a fire fighting foam concentrate orifice in concert with the adjustment of the fire fighting

fluid orifice" is found in, or inherently described in, Klein. (Applicant draws the Examiner's attention to the teaching and disclosure of column 7 of Klein. In particular, see lines 12 through 17 of column 7.) Klein does not teach or suggest adjusting a fire fighting fluid orifice to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate varies, and/or varying a foam concentrate orifice in concert with such adjustment of a fire fighting fluid orifice.

Similarly, in regard to claim 14, the Examiner does not assert or establish that "a varying fire fighting fluid orifice acting as a fire fighting fluid flow rate indicator", or "varying a foam concentrate orifice at a rate calibrated in concert with variations of the fire fighting fluid orifice" is found in, or is inherently described in, Klein. Klein teaches varying the foam concentrate orifice, by preselection, to coordinate with variations in the density of the foaming concentrate selected to be used, e.g. 3%, 6% or 10%.

In regard to claim 39, the Examiner does not assert or establish that "arranging a pilot valve sensitive to flow rate of the fire fighting fluid in the conduit" is found in, or is inherently described in, Klein. Applicant submits that Klein's check valve is sensitive to flow, in the sense of "on" or "off", but Klein does not teach or suggest a pilot valve sensitive to flow rate.

Regarding claim 39, the Examiner does affirmatively assert that in Klein "measuring pressure drop is accomplished since the degree to which opening 54 is opened depends on the pressure drop across element 36". Applicant traverses here, and submits that such is not taught by Klein. (Again, see column 7, lines 12-17.) The degree to which opening 54 is opened depends on the prior setting of the "pins" or the like. "Pin setting" is selected to correspond to the density, or percent concentrate, of the foam additive to be utilized. (Note that figure 5 shows Klein's valve in its closed position, while Figure 6 shows Klein's valve in an actuated open position.) As per Klein, the degree to which opening 54 is opened depends on the adjustable pin and slot means for adjusting the actual extent of displacement of the piston in 32 and hence adjusting the extent of registry of the valve stem apertures 54 with the secondary fluid points 28 when the valve is actuated by a flow of primary fluid there through. (See column 5 line 67 through column 6 line 6.) Such adjustment, illustrated particularly in figures 2, 7, 8 and 9, is referred to as "an important aspect" of the Klein invention. A pin mounting hole is to be provided for each preselectable ratio of secondary/primary fluid mixture proportions. (See column 6 lines 20 through 23.) Figures 10-13 and 14-17 show alternate embodiments, all analogous to the above-preselected pin and slot

arrangement. Note further in Klein's Abstract of the Invention that the extent of displacement of a flow displacing proportioning piston (element 36 creating orifice 54) is preselected by engagement of an adjustable stop member in one of a plurality of specific stop positions. In summary, applicant submits that Klein neither teaches nor suggests that the degree to which 54 is opened depends on any pressure drop across element 36, as the Examiner asserts. Applicant does not find Klein discussing at all any anticipated pressure drop across element 36.

Rejection Under § 103

Claim 20 is rejected under § 103(a) as unpatentable over Klein. It is asserted that Klein "discloses the limitations of the claimed invention" with the exception of the nozzle and the flow rate range. Applicant traverses and submits that the Examiner does not assert or establish a teaching or suggestion in Klein for the claim elements of:

"automatically adjusting a fire fighting nozzle to control discharge pressure;" and/or

"automatically varying a foam proportioning orifice to meter foam concentrate self-educted into the nozzle in accordance with fire fighting fluid flow rate through the nozzle." Applicant submits that Klein neither mentions a pressure drop around the obstruction nor teaches varying the obstruction 36 by the pilot valve to maintain a fixed pressure drop in the fire fighting fluid conduit.

Since the Action has failed to establish a prima facie case of unpatentability of the independent claims, applicant is entitled to grant. Further discussion is unnecessary under the circumstances.

In regard to the Examiner's withdrawal of claims 24-32, applicant respectfully submits that said claims depend from claim 39. Thus, there is a generic claim. Applicant respectfully submits that claims 24-32 should be included and examined.

Reconsideration and further examination is respectfully requested.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Sue Z. Shaper, Applicants' Attorney at 713 550 5710 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

5/29/02
Date

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Attorney/Agent for Applicant(s)
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I hereby certify that this is being deposited with the U.S. Postal Service "Express Mail Post Office to Addressee" service under 37 CFR § 1.10 on the date indicated below and is addressed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

By: Valerie E. Savoy
Typed Name: Valerie E. Savoy
Express Mail Label No.: EV 025982812 US
Date of Deposit: 5-29-02

P.S. Examiner Morris of the related pending application agreed to make sure that each of you reviewed the others references.

12. (Amended) A method for proportioning fire fighting [foaming] concentrate into variably flowing fire fighting fluid [passing through a conduit], comprising:

adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies;

varying a fire fighting foam concentrate orifice in concert with the adjustment of the fire fighting fluid orifice; and

supplying fire fighting foam concentrate through the concentrate orifice into the fire fighting fluid proximate a pressure drop such that a ratio of the foaming concentrate proportioned into the fire fighting fluid flowing through the conduit, to the fluid, remains approximately constant.

13. [The method of claim 12 wherein the predetermined pressure drop varies by less than 100% over designed effective fire fighting fluid flow rates through the conduit.]

The method of claim 14 wherein varying a fire fighting fluid orifice includes adjusting the lateral movement of a baffle within the conduit.

18. (Amended) The method of claim 14 wherein varying a fire fighting fluid orifice includes adjusting the lateral movement of a [baffle/]piston within the conduit.

20. (Amended) A method for comprising:

automatically adjusting a fire fighting nozzle to control discharge pressure;

self-educting fire fighting foam concentrate into the nozzle using a portion of a fire fighting fluid flowing at at least 500 gpm through the nozzle; and

automatically varying a foam proportioning orifice in order to meter foam concentrate self-educted into the nozzle in accordance with fire fighting fluid flow rate through the nozzle.

12. A method for proportioning fire fighting concentrate into variably flowing fire fighting fluid, comprising:

adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies;

varying a fire fighting foam concentrate orifice in concert with the adjustment of the fire fighting fluid orifice; and

supplying fire fighting foam concentrate through the concentrate orifice into the fire fighting fluid proximate a pressure drop such that a ratio of foaming concentrate proportioned into the fire fighting fluid flowing through the conduit, to the fluid, remains approximately constant.

13. The method of claim 14 wherein varying a fire fighting fluid orifice includes adjusting the lateral movement of a baffle within the conduit.

18. The method of claim 14 wherein varying a fire fighting fluid orifice includes adjusting the lateral movement of a piston within the conduit.

20. A method for comprising:

automatically adjusting a fire fighting nozzle to control discharge pressure;

self-educting fire fighting foam concentrate into the nozzle using a portion of a fire fighting fluid flowing at at least 500 gpm through the nozzle; and

automatically varying a foam proportioning orifice in order to meter foam concentrate self-educted into the nozzle in accordance with fire fighting fluid flow rate through the nozzle.